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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/702,496      | 10/31/2000  | John Border          | 81798/CEB           | 9832             |

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|                         |              |
|-------------------------|--------------|
| EXAMINER                |              |
| HECKENBERG JR, DONALD H |              |
| ART UNIT                | PAPER NUMBER |
| 1722                    | 4            |

DATE MAILED: 06/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-4

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 09/702,496             | BORDER ET AL.       |
| <b>Examiner</b>              | <b>Art Unit</b>        |                     |
| Donald Heckenberg            | 1722                   |                     |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-13 is/are pending in the application.  
 4a) Of the above claim(s) 7-13 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) 1 - 6 is/are rejected.  
 7) Claim(s) \_\_\_\_ is/are objected to.  
 8) Claim(s) 1-13 are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 31 October 2000 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 11) The proposed drawing correction filed on \_\_\_\_ is: a) approved b) disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.  
 12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.  
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
 a) The translation of the foreign language provisional application has been received.  
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)                    4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_.  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)                    5) Notice of Informal Patent Application (PTO-152)  
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.                    6) Other: \_\_\_\_.

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1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-6, drawn to an apparatus for making double-sided microlens, classified in class 425, subclass 192 R.

II. Claims 7-13, drawn to a method of making double-sided microlens, classified in class 264, subclass 2.5.

2. Inventions Group II and Group I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed can be practiced by another and materially different apparatus wherein the mold cavity is not formed in a polygonal substrate.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Mr. Clyde Bailey on May 24, 2002 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-6. Affirmation of this election must be made by applicant in replying to this Office action. Claims 7-13 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

7. The disclosure is objected to because of the following informalities:

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The first paragraph of the specification should be updated to include the filing date, application number, and status of the mentioned applications.

Appropriate correction is required.

8. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "flexible insert" as recited in claim 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art

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to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The "set of alignment features... arranged in [the] first flexible insert and... apertures formed in [the] second insert." is not described in the specification nor shown in the drawings. It is not understood how the bushing can be in the insert based on the disclosure.

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites structures of the apparatus as "flexible inserts." As noted above, this feature is not explicitly shown in the drawings. Based on the specification of the instant application, it appears as though the flexible inserts are the "substrate" marked as 100 in fig. 10. However, this is not clear from the disclosure. Further, with this interpretation, claim 3

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does not make sense as this claim recites that the set of alignment features are formed in the flexible inserts which is not shown in the drawings (note the rejection under 35 U.S.C. 112, first paragraph above).

For the purposes of this examination on the merits in view of the prior art, claim 1 will be interpreted as reading that the flexible inserts are the substrates, and that claim 3 reads as the set of alignment features are located as such to align the inserts, but not that the alignment features are positioned in the inserts. Further clarification and/or correction is required.

The term "flexible" in claims 1 and 3 is a relative term which renders the claim indefinite. The term "flexible" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not clear from the disclosure what would constitute a flexible insert as opposed to an inflexible insert.

Claim 6 recites that the mold cavities are formed in a "polygonal substrate." This limitation lacks antecedent basis in the specification, and it is unclear what a "polygonal substrate" is. It is believed based on the disclosure, including

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in particular the reference to US Pat. No. 5,519,539 (entitled "MICROLENS ARRAY WITH MICROLENSES HAVING MODIFIED POLYGON PERIMETERS") that this limitation was intended to indicate that the shape of the mold cavities is a polygon. For the purposes of this examination on the merits in view of the prior art, the claim will be interpreted as reciting a polygonal shaped cavity. Further clarification and/or correction is required.

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 1-3 and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cumming (US Pat. No. 5,837,156) in view of Fujimoto et al. (US Pat. No. 6,141,991).

Cumming teaches a molding apparatus comprising a first mold base and a second mold base (fig. 26), wherein each of the first and second mold base has a insert (165) for accommodating a pair of juxtaposed mold cavities (164), with a set of alignment features comprising a taper bushing (168) arranged in the insert alignably disposed in a corresponding receiving aperture (184) formed in the second insert.

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Cumming fails to teach the apparatus to comprise first and second platens supporting the mold bases. Cumming also fails to teach the mold bases to comprise an alignment member comprising a pair of guide pins and corresponding spaced apertures.

Fujimoto teaches a molding apparatus wherein the apparatus comprises first and second mold bases (201a and 201b) supported on first and second platens (208 and 209) as such allow for the apparatus to be used in a pressing operation (see col. 10, lns. 35-39). Fujimoto further teach the apparatus to comprise a pair of guide pins (211) and corresponding spaced apertures (212) to guide and align the molds when they are opened and closed.

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Cumming as such to have provided the apparatus with a first and second platens because this would have allowed the mold base to be used in a pressing operation as suggested by Fujimoto. It also would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Cumming as such to have provided the mold bases with guide pins and corresponding apertures because this would have aided in guiding and aligning the mold bases when the mold is opened and closed as suggested by Fujimoto.

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Note that claim 1 recites an intended use of the claimed apparatus as "juxtaposed mold cavities for receiving a microlens mold..." Written as such, this limitation does not claim the microlens mold positioned within the mold cavities, rather simply recites this as an intended use of the apparatus. It is well settled that the intended use of an apparatus is not germane to the issue of patentability of the apparatus. If the prior art structure is capable of performing the claimed use, then it meets the claim limitation(s). In re Casey, 370 F.2d 576, 580 152 USPQ 235, 238 (Cust. & Pat. App. 1967); In re Otto, 312 F.2d 937, 939, 136 USPQ 458, 459 (Cust. & Pat. App. 1963). In the instant case the apparatus of Cummings would be capable of receiving a microlens mold, and therefore meets the claim limitation.

As noted above, Cumming teaches the apparatus to comprise a set of alignment features comprising a taper bushing (168) arranged in the insert alignably disposed in a corresponding receiving aperture (184) formed in the second insert. Although Cumming does not teach the a pair of bushings or apertures on each insert as recited in claim 3, Cumming does teach each of the inserts to comprise a bushing and an aperture such that two inserts working together comprise a pair of bushings and apertures (see fig. 26). The modification of the apparatus such

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that an insert comprises either a pair of bushings or a pair of apertures requires a shift in location of the parts without otherwise effecting the apparatus operation. In general, such modifications are seen as obvious to one of ordinary skill in the art. In re Japikse, 181 F.2d 1019, 86 USPQ 70 (Cust. & Pat. App. 1950). In this case, it would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Cumming as such to have provided two bushings or apertures on each inserts because this shift in the location of the parts would not effect the apparatus operation.

17. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cumming modified by Fujimoto as applied to claims 1-3, and 5-6 above, and further in view of Maus et al. (US Pat. No. 4,828,769).

Cumming and Fujimoto teach the apparatus as described above. Cumming and Fujimoto fail to teach the apparatus to be an injection molding assemblage.

In the same field of endeavor (lens molding), Maus teaches a mold structure to be an injection molding assemblage.

It would have been obvious to one of ordinary skill in the art at the time of the Applicant's invention to have modified

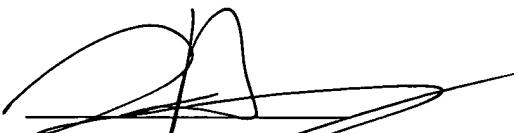
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the apparatus of Cumming and Fujimoto as such to have made the mold an injection molding assemblage because this is suitable way to form the desired molded product as suggested by Maus.

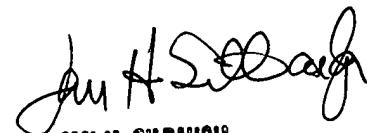
18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Heckenberg whose telephone number is (703) 308-6371. The examiner can normally be reached on Monday through Friday from 9:30 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Jan Silbaugh, can be reached at (703) 308-3829. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 for responses to non-final action, and 703-872-9311 for responses to final actions. The unofficial fax phone number is (703) 305-3602.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Donald Heckenberg  
May 29, 2002



JAN H. SILBAUGH  
SUPERVISORY PATENT EXAMINER  
ART UNIT 1722

05/31/02